

WHAT IS CLAIMED IS

1. An optical disc apparatus using a decoder chip with no synchronization processing function of audio data and visual data comprising:

an optical pickup device for reading video data from on optical disc;

a separator for separating visual data and audio data from the video data;

a visual data decoder for decoding the separated visual data;

an audio data decoder for decoding the separated audio data;

a time information extractor independently for extracting time information of visual data from the visual data and for extracting time information of audio data from the audio data;

a lip sync judger for comparing the time information of the visual data with the time information of the audio data at a predetermined interval, and judges whether reproduction of the audio data is synchronized with reproduction of the visual data or not; and

a lip sync compensator for compensating lip sync between the audio data and the visual data by pausing or fast-forwarding the reproduction of the audio data in a predetermined period while no sound is outputted.

2. The optical disc apparatus in accordance with claim 1, wherein

the lip sync compensator controls the audio data buffer so as to stop output of the audio data in the predetermined period when the

reproduction of the audio data goes ahead of the reproduction of the visual data.

3. The optical disc apparatus in accordance with claim 2, wherein

the predetermined period is equal to or shorter than a delay between the reproduction of the visual data and the reproduction of the audio data.

4. The optical disc apparatus in accordance with claim 2, wherein

the lip sync judger further judges whether the delay of the visual data with respect to the audio data is equal to or smaller than a predetermined standard period or not; and

the lip sync compensator completes the compensation of the lip sync between the audio data and the visual data when the delay of the visual data with respect to the audio data is equal to or smaller than the predetermined standard period.

5. The optical disc apparatus in accordance with claim 4, wherein

the predetermined standard period is a period in which occurrence of the lip sync between the audio data and the visual data is rarely noticed by a TV viewer.

6. The optical disc apparatus in accordance with claim 5, wherein

the predetermined standard period is 30 ms.

7. The optical disc apparatus in accordance with claim 1,

wherein

the lip sync compensator controls the audio data buffer so as to discard the audio data of a predetermined period for fast-forwarding the reproduction of the audio data when the reproduction of the audio data is delayed from the reproduction of the visual data.

8. The optical disc apparatus in accordance with claim 7, wherein

the predetermined period is equal to or shorter than a delay between the reproduction of the audio data and the reproduction of the visual data.

9. The optical disc apparatus in accordance with claim 7, wherein

the lip sync judger further judges whether the delay of the audio data with respect to the visual data is equal to or smaller than a predetermined standard period or not; and

the lip sync compensator completes the compensation of the lip sync between the audio data and the visual data when the delay of the audio data with respect to the visual data is equal to or smaller than the predetermined standard period.

10. The optical disc apparatus in accordance with claim 9, wherein

the predetermined standard period is a period in which occurrence of the lip sync between the audio data and the visual data is rarely noticed by a TV viewer.

11. The optical disc apparatus in accordance with claim 10,

wherein

the second predetermined period is 30 ms.

12. An optical disc apparatus using a decoder chip with no synchronization processing function of audio data and visual data comprising:

an optical pickup device for reading video data from on optical disc;

a separator for separating visual data and audio data from the video data;

a visual data decoder for decoding the separated visual data;

an audio data decoder for decoding the separated audio data;

a time information extractor independently for extracting time information of visual data from the visual data and for extracting time information of audio data from the audio data;

a lip sync judge for comparing the time information of the visual data with the time information of the audio data at a predetermined interval, and judges whether reproduction of the audio data is synchronized with reproduction of the visual data or not; and

a lip sync compensator for compensating lip sync between the audio data and the visual data by pausing the reproduction of the audio data in a predetermined period while no sound is outputted when the reproduction of the audio data goes ahead of the reproduction of the visual data more than a first predetermined standard period.

13. The optical disc apparatus in accordance with claim 12,

wherein

the lip sync judger further judges whether the delay of the visual data with respect to the audio data is equal to or smaller than a second predetermined standard period or not; and

the lip sync compensator completes the compensation of the lip sync between the audio data and the visual data when the delay of the visual data with respect to the audio data is equal to or smaller than the second predetermined standard period.

14. The optical disc apparatus in accordance with claim 13, wherein

the first predetermined standard period is a period in which occurrence of the lip sync between the audio data and the visual data is obviously noticed by a TV viewer; and

the second predetermined standard period is a period in which occurrence of the lip sync between the audio data and the visual data is rarely noticed by the TV viewer.

15. The optical disc apparatus in accordance with claim 14, wherein

the first predetermined standard period is 100 ms and the predetermined standard period is 30 ms.